The Four Rapid COVID 'PCR' Style Tests You Can Take at Home (and Why You Should)

Molecular tests are far superior to rapid antigen tests—and now you can get them for home use.

Amanda Blum October 21, 2024

We may earn a commission from links on this page.

Credit: Amanda Blum

Last week, I was about to go on a date, and because I'm severely immunocompromised, we

agreed he would take a COVID test using one of my rapid home molecular tests. It was a courtesy—he felt perfectly fine— but he tested positive. By the next day, he was sick as a dog. And, by the way, the rapid antigen test he took when he got home that night was negative.

Regardless of how you much of a health risk you see in COVID, it is still, at best, an inconvenience that costs you days off work. A simple home molecular test saved me from that inconvenience (and worse), and if I'd relied on the common rapid antigen test or done nothing at all, I would probably be sick right now.

While the world has desperately attempted to move on from COVID, this summer saw the highest case loads since 2022, with a winter surge just around the corner. Almost 10,000 people died from COVID in the US over the last three months alone, so while the pandemic has transitioned into endemic, according to the CDC, there are still risks to be aware of. Around *400 million* people worldwide have long COVID, where symptoms can range from annoying to absolutely debilitating, regardless of your age, pre-COVID health, or fitness levels. Cases of long COVID are crushing our medical system, too. The two best tools to avoid getting COVID continue to be masking and testing. Unfortunately, the PCR testing centers that used to be available in each city have long closed, and obtaining a PCR has become expensive and hard to locate. This is why home testing kits are so important.

While you may be used to thinking of COVID tests as interchangeable, there's a big difference between the standard at-home antigen test and a PCR or other type of molecular test. Almost five years in, it's important to understand why molecular tests are the ones you want when accurate testing is important.

The difference between a molecular ("PCR") and a Rapid Antigen Test

What you normally think of as a home COVID test—like the kind you can order for free from the government—is a rapid antigen test. When these at-home COVID tests became available, they were a powerful tool to help people know they were positive so they could

isolate themselves from others. Almost all at-home tests were lateral flow tests, also known as rapid antigen tests (RATs). They measure for proteins on the outside of SARS-C0V-2, but they have a major flaw: They can only detect active virus. If you're asymptomatic or don't have a high viral load yet, the RAT may show negative results while you have an active and contagious infection.

This is why, if you already have symptoms, a negative antigen test isn't conclusive. You may need to test a number of times to confirm you have COVID. When you first get sick, you may go a number of days (as many as five) without enough virus to set off a positive RAT test. RATs were designed to be taken multiple times in sequence.

Molecular tests, on the other hand, measure RNA and can detect even small amounts of the virus. PCR tests done in labs are a type of molecular test and are considered the "gold standard" of COVID testing. The home tests I'm discussing here are also molecular tests but use a different technology and are more accurately known as NAAT, for nucleic acid amplification tests. Their method is similar to PCR and so is their accuracy, so they are often marketed as "home PCR tests."

These tests are generally considered accurate starting one to three days *before* you experience symptoms. Until last year, you needed to get a PCR from a testing center, but home NAAT tests have evolved and there are now four rapid, at-home molecular COVID tests, meaning you test and get a result within 30 minutes.

Why we still need COVID testing

The world is now divided into people who view COVID as part of regular life and those who, due to chronic illness, immune issues, previous infections, or age, cannot afford to get infected. For a long time, we viewed COVID testing as something you do for your own health, but home molecular testing represents a way you can easily protect those vulnerable people in your life without cutting them off from society.

But even if you're not concerned about others, you should still care about protecting yourself from multiple infections. While the likelihood you will die of COVID has gone down dramatically due to vaccines, medical interventions, and natural immunity from infection, the news has not done a great job talking about long COVID. As people get infected two, three, four, and more times, they are playing against the odds. It's estimated that one in 10—or even as many as one in five—infections leads to long COVID, and to explain how much it's not "just the flu," COVID is now considered to be a vascular illness. That means it affects the blood vessels in your body, which go everywhere. Thinking of COVID as a vascular illness helps explain why long COVID is everything from extreme fatigue to migraines to numbness in your extremities, loss of smell and taste, extreme fatigue, and neurological and cardiovascular conditions.

While lots of people no longer even test to see if they have COVID, there are a few reasons to get a definitive answer. First, you can only get the intervention Paxlovid within the first five days of symptoms. Anti-virals like Paxlovid knock down your viral load, one of the things we think helps prevent long COVID. Second, no one knows who will get long COVID, and you might need proof of that positive test in the future for insurance or benefits or even to justify sick days.

Lastly, you need to get tested because it is *hard* to know when you have COVID. Symptoms of COVID include headache, body ache, fever, sniffles, congestion, fatigue, sore throat, vomiting, diarrhea, and loss of smell or taste. In other words, absolutely anything out of the ordinary. While a RAT is unreliable for safe socializing with people for the reasons explained above, a molecular test can pretty reliably clear someone to come in your house that day, or be in close proximity. In that way, these molecular tests can be a tool to help immunocompromised people back into the world and make multigenerational celebrations safer.

How to get a molecular/PCR test

Outside of your home, your main options now are urgent care clinics and places that do testing for travel. In both cases, they'll be expensive. In the case of urgent care, they'll put you in the same space as all the sick people, who are now no longer required to mask in healthcare settings, so if you don't already have COVID, you might pick it up there. Fortunately, there are molecular (PCR quality) tests you can take at home.

Rapid molecular tests require a similar effort on your part as a RAT test. You'll swab yourself and then insert that swab into a machine that gives you a result. There are currently just four brands of these tests available: Lucira, Metrix, 3EO, and PlusLife. Unlike RAT tests, you have to order them, although Metrix and Lucira tests are available on Amazon, and Walgreens stocks Lucira tests in select stores. For a long time, they were just too expensive for most people, so they were relegated to the likes of movie sets, law firms, and Google employees. Prices have gone down, so now they're more accessible—as low as $10 a test. Here are your options.

Lucira Check It COVID-19/ Flu A&B Test

Credit: Courtesy of Lucira by Pfizer

Cost:$39.99 for a one time use test

Availability: Amazon and Walgreens

Accuracy on positive samples: 97%

Accuracy on negative samples: 99%

Pros: One of the great upsides to the Lucira test is that because the hub is disposable (unfortunately, it is one use) and comes with the test, it's the ideal test for groups, since everyone can take their own test at the same time. You also test for flu at the same time.

Cons: The downside is that the specificity and sensitivity (accuracy) are lower than they are for the other tests, and Lucira, at $39.99, is more expensive than other tests.

Lucira was one of the first at-home molecular tests, and last year was reformulated into a combo test, so you can test for flu at the same time. Lucira is one of the easier tests to use, with only a few steps. First, you insert batteries into the testing hub, which is disposable. (The test will come with the batteries, but it's important you insert the batteries immediately before you start the test, or the test will error out.) Like all other tests, Lucira has a swab, which you use to get a sample by swirling in your nose, and then place that swab into a vial of liquid and swirl it around. Remove the swap, snap the top onto the vial and wait 30 minutes for the lights on the face to signal if you're positive or negative.

Aptitude Metrix COVID-19 Test and Reader

Credit: Amanda Blum

Cost: $24.99 per test, one time $49.99 cost for reusable reader

Availability: Amazon (test is in stock, reader is out of stock) and Aptitude Website

Accuracy on positive samples: 97%

Accuracy on negative samples: 99%

Pros: Reliable test with very high accuracy rates that is often available with two-day shipping from Amazon for restocking.

Cons: Snapping the parts of the test together can be hard for people with mobility issues or arthritis. Can only test one person at a time, in 30-minute intervals; reader requires power.

Metrix tests have two parts: a reusable hub you purchase separately, and a test that you insert into the hub. There's still a swab, which you use to get a sample from your nose, and then insert into a plastic part, breaking the end of the swab off. You connect the plastic part to a compartment of liquid, snapping them together. These parts are then connected to the test slide, snapping them together again, and then entire thing is then loaded into the hub, which must be plugged into power during use. After 30 minutes, you'll have a result.

Technically, you can use the Metrix test with saliva rather than a nose swab—however, the accuracy of the test drops dramatically, and most reported errors with this test are when using it with saliva.

3EO COVID-19 Test

Credit: Amanda Blum

Cost: $195 for the reusable reader and 2 tests; additional tests are $20 each

Availability: 3EO Website

Accuracy on positive samples: 95%

Accuracy on negative samples: 100%

Pros: Probably the easiest test to self-administer if you have mobility issues or arthritis;

roughly the same high accuracy as Metrix and PlusLife.

Cons: Only available from manufacturer, cannot buy reader separately, and is more expensive than other readers. Reader requires power, can only test one person at a time in 30-minute intervals.

3EO uses a reader, like many of the other tests, but has fewer parts and steps. You swab your nose with a notably shorter, easier-to-hold swab, put the swab into a small vial, and then insert the vial into the reader, and push the vial in until you hear a snap. Press a button on the reader and wait 30 minutes for a result.

PlusLife COVID-19 Test

Credit: Amanda Blum

Cost: $310 for the reusable reader; tests are purchased in packs of 10 for $79.20. Discounts available for immunocompromised individuals.

Availability: Altruan Website

Accuracy on positive samples: 99%

Accuracy on negative samples: 100%

Pros: Amortizing out to $10 or less a test, easily the most affordable, long-term. High level of accuracy. Reader can connect to a website to give real time, highly detailed results.

Cons: Only available through Altruan, has not applied for or received authorization in the U.S. While the costs amortize over time, the hub is very expensive to start. One of the most complicated processes for testing. Can only test one person at a time (a far more expensive, eight-person reader is available). Reader requires power.

It may seem odd to talk about a test you have to buy from Europe, with an expensive reader, and a test process I just called complicated. However, because of the accuracy of the test, the ability to verify results against the website and the lowered cost (if you buy a hub and a bunch of tests, even with shipping the cost per test is still less than $10), PlusLife has gained a large following in the U.S. and is popular among people who have to test often. European countries were much more diligent about test distribution, and keeping the cost of tests down, so while this technically isn't authorized in the U.S., it is approved for use throughout Europe and is fine to import and has been used in a number of U.S.-based studies.

To use the test, you place a plastic card with a screwtop into a dock, and next to it, a vial of liquid. You collect a sample with a swab, as you would with other tests, insert that swab into the liquid, and then remove the swab. You screw a dropper lid onto the vial and then carefully fill the card, but you have to be precise—there are two small lines you need to fill between. Then you screw the cap onto the card, press the cap down, shake the card, and finally, insert the card into the reader. You can then connect to the accompanying website via Bluetooth or USB cable through your phone or laptop, and watch in real time as the results are displayed.

A previous version of this article referred to these at-home tests as PCR tests. This article was updated 11/12/2024 to note that these are molecular tests but not necessarily PCR tests. They are, however, similar in method and accuracy to true PCR tests.

Amanda Blum

Amanda Blum is a freelancer who writes about smart home technology, gardening, and food preservation.

Read Amanda's full bio

MORE BY AMANDA

HOME & GARDEN

The Safe (and Unsafe) Flowers to Buy Your Valentine If They Have Pets

February 10, 2025

PLANTS

Everything I'm Seeding in February

February 7, 2025

RELATED ARTICLES

October 10, 2024

Why Your Home Gym Needs Adjustable Kettlebells

September 26, 2024

You Can Now Order Free At-Home COVID Tests (Again)

September 24, 2024

Why (and When) You Should Get Both a COVID Shot and a Flu Shot This Fall

September 11, 2024

Why Pistol Squats Are So Hard (and How to Do Them Anyway)

LIFEHACKER

Lifehacker has been a go-to source of tech help and life advice since 2005. Our mission is to offer reliable tech help and credible, practical, science-based life advice to help you live better.

© 2001-2025 Ziff Davis, LLC., A ZIFF DAVIS COMPANY. ALL RIGHTS RESERVED.

Lifehacker is a federally registered trademark of Ziff Davis and may not be used by third parties without explicit permission. The display of third-party trademarks and trade names on this site does not necessarily indicate any affiliation or the endorsement of Lifehacker. If you click an affiliate link and buy a product or service, we may be paid a fee by that merchant.

AdChoices
Image AdChoices
Pixel

askmen®

Offers.com®

EXTREMETECH

PCMAG.COM

IGN

RetailMeNot

SPEEDTEST

Mashable